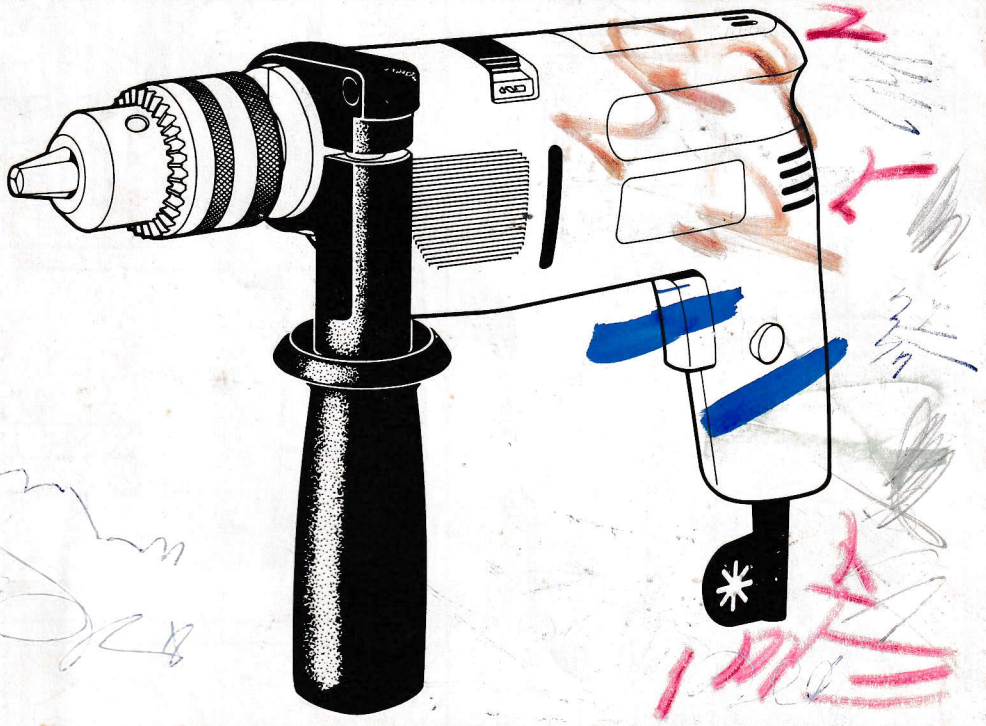
Black & Decker®



HAMMER DRILL
Instructions for use

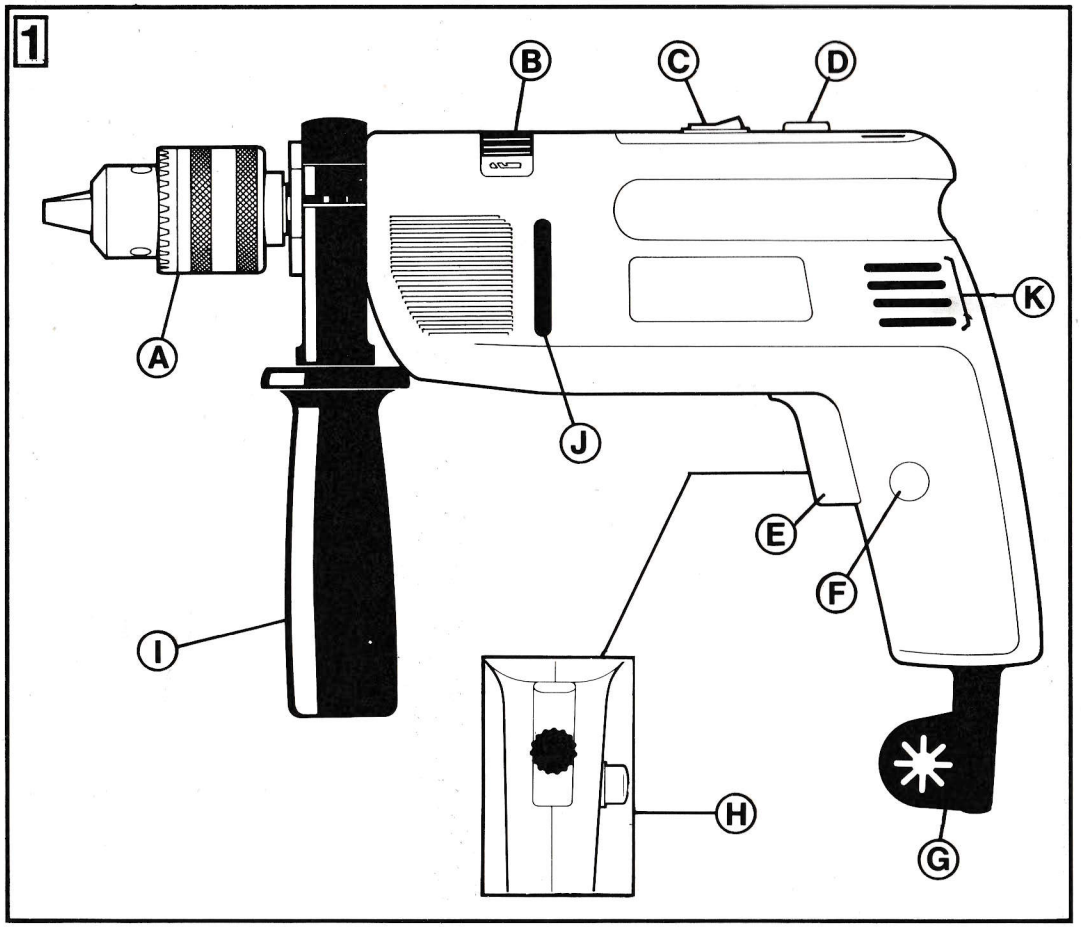
PERCEUSE À PERCUSSION
Notice d'entretien et d'utilisation

SCHLAGBOHRMASCHINE
Bedienungsanleitung

KLOPBOORMACHINE
Gebruiksaanwijzing

TRAPANO A PERCUSSIONE
Istruzioni per l'uso

TALADRO CON PERCUTOR
Instrucciones de uso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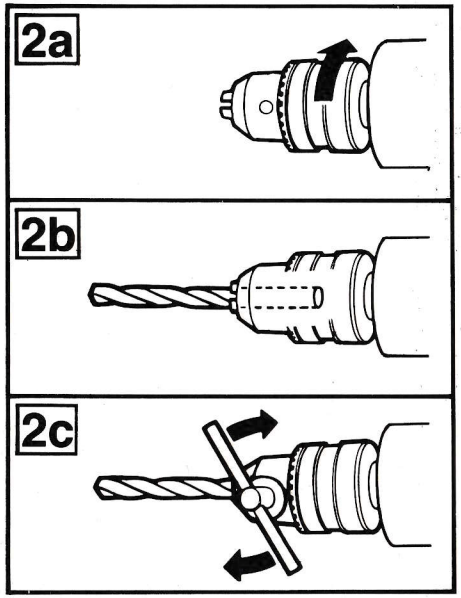
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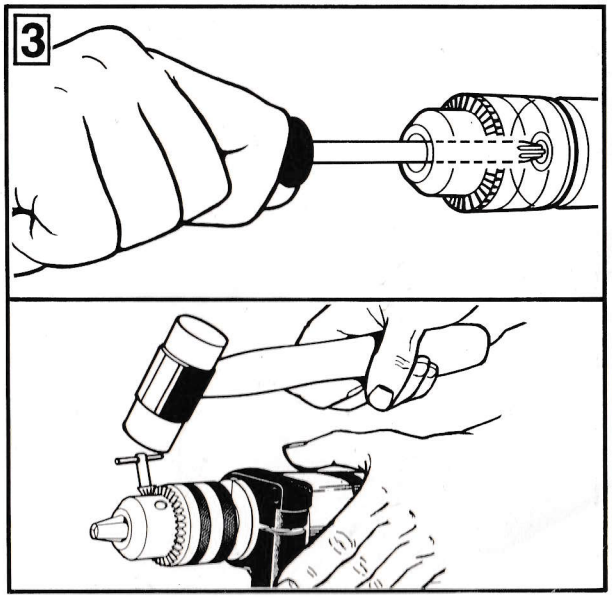
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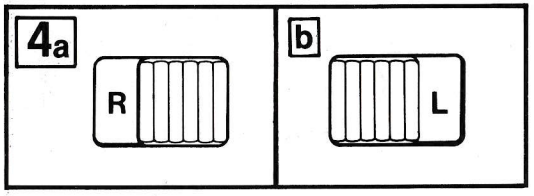
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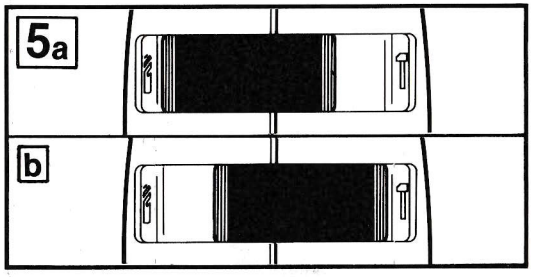
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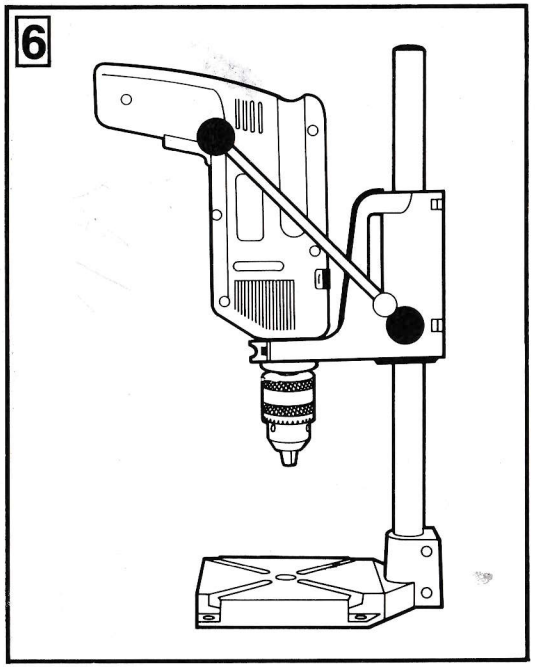
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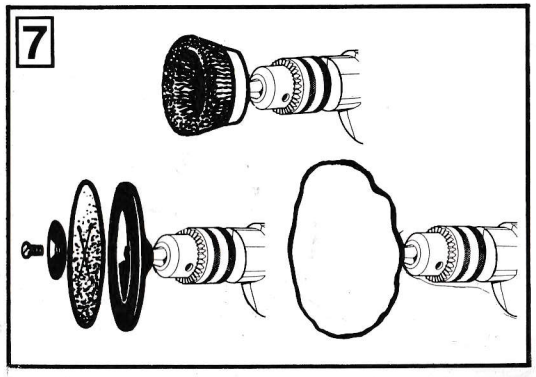
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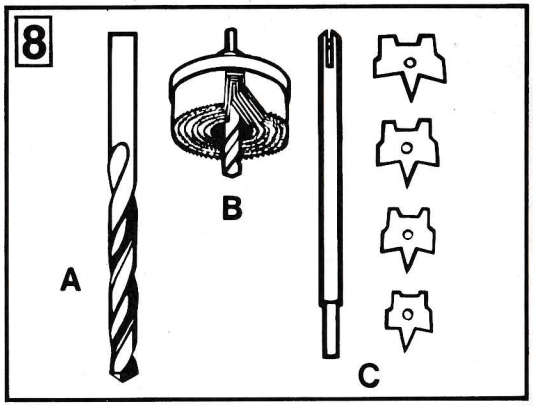
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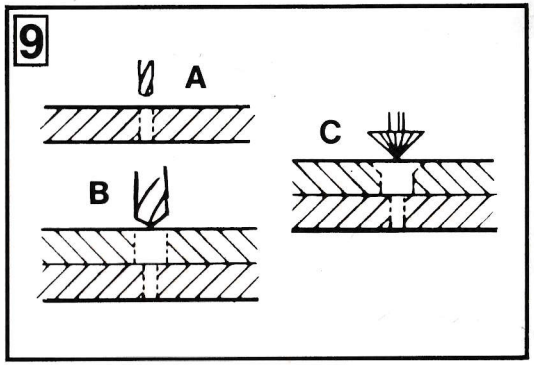
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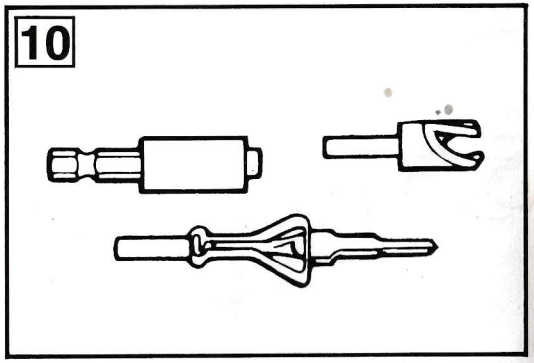
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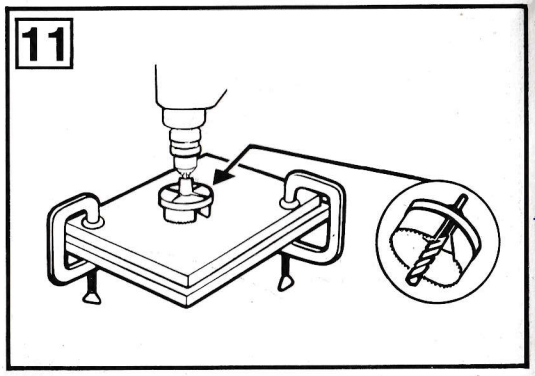

11

Safety Rules

Know your drill; read all of this leaflet carefully before you use the drill.

Your clothing
- Don't wear loose clothing, hair or jewellery which might get caught in moving parts.
- Wear rubber footwear when working outdoors.
- Use safety glasses particularly when working overhead, or using grinding wheels or wire brushes.

Your work area
- Keep your work area well-lit.
- Keep your work area clean and clear of obstructions.
- Keep children and other onlookers at a safe distance.
- Don't use your drill in damp or wet conditions.

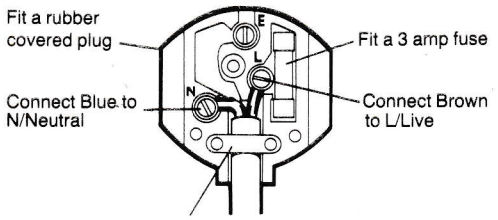
Your drill
- Keep drill bits sharp for best and safest performance.
- When fitting and changing accessories, always follow the instructions supplied with the accessory.

Using your drill
- Use clamps or a vice to hold work if possible.
- Make sure the switch is off before you plug in.
- Remove the chuck key before switching on.
- Hold the drill firmly
- Don't over-reach; be sure of your footing and balance at all times, especially on ladders and staging.
- Don't force your drill – it will do a better and safer job at the speed for which it was designed.
- Always switch off before you put the drill down.
- Disconnect the drill when you're not using it, before cleaning, and when changing drills and other accessories.
- Your drill has been designed to be held, where necessary, by hand on the rear of the unit. When used in this way, one set of air inlet slots may be covered. Always ensure that no more than one set are covered at one time.

Carrying and storage
- Never carry your drill by its cable.
- Never carry a plugged-in drill with your finger on the switch.
- Store your drill in a dry place.
- Store your drill in a high or locked-up place, out of reach of children.

Plug and cable
- Don't tug at the cable to pull the plug from the socket.
- Keep the cable away from heat, oil, sharp edges and rough surfaces and ensure it is in good condition.

Electrical connection



Make sure that the outer sheath of the cable is held firmly by the clamp.

240 Volts AC only
Never use a light socket.

AS A GENERAL GUIDE TO FITTING ANY PLUG
- Ensure the lengths of wire inside the plug are prepared correctly.
- Connections should be firmly made after all conductor strands are entered into the termination posts.
- When preparing the cable ends take care not to damage the outer sheath or the insulation surrounding the inner conductors.
- Tighten all screws.
- Replace top cover of plug and secure.

Electrical Safety

Voltage – Make sure that your machine is correct for your supply. The voltage of this machine is on the Rating Plate.
The cable fitted to your machine is of two core construction. The leads at the end of the cable are not prepared for any specific type of plug.

Extension cable

You can use up to 100ft (30 metres) of Black & Decker extension cable without undue loss of power. Do not use any appliance requiring an earth wire on a 2-core extension cable. Make sure that the socket is fitted to the extension cable and plug is fitted to the drill.

⧈ Double insulation

Your drill is double insulated. This means that all the external metal parts are electrically insulated from the mains. This is done by placing insulation barriers between the electrical and mechanical components making it unnecessary for the drill to be earthed.

Features of the Hammer Drill (See illus. 1)

Ⓐ CHUCK
Ⓑ HAMMER ACTION SELECTOR
Ⓒ 2 SPEED SWITCH (2 SPEED MODELS ONLY)
Ⓓ CHUCK ROTATION SELECTOR (REVERSING MODELS ONLY)
Ⓔ ON/OFF SWITCH
Ⓕ LOCK-ON BUTTON
Ⓖ CHUCK KEY-HOLDER
Ⓗ VARIABLE SPEED PRE-SELECT WHEEL (VARIABLE SPEED MODELS ONLY)
Ⓘ HANDLE ATTACHMENT
Ⓙ AIR EXHAUST SLOTS
Ⓚ AIR INLET SLOTS

Preparing for use

Fitting your drill bit (See illus. 2)

a. Turn the chuck this way to open it.
b. Put the drill bit in the chuck. When hammer action is selected, make sure that the drill is in as far as it will go.
c. Put the chuck-key in each hole in turn and tighten very firmly.

Switch operation

Lock-on button (See illus. 1 F)

The lock-on button is provided to maintain speed setting without having to hold the trigger. To operate — squeeze the trigger fully, depress the lock-on button and release the trigger. To disengage the lock simply squeeze and release the trigger.

Variable Speed (See illus. 1 H)

Some drills are fitted with a variable speed switch. Speeds between zero and maximum are obtained by increasing or decreasing pressure applied to the trigger. Speeds can be pre-set by adjustment of the black click wheel set in the trigger and locked on if required. Adjustment in the direction of the arrow increases speed.

Speed change switch (Two speed models only) (See illus. 1 C)

WARNING
The speed should never be changed while the motor is running.
To Change Speed First ensure motor is stationary!
LOW SPEED – Press the switch so that number 1. is visible.
HIGH SPEED – Press the switch so that number 2. is visible.

Chuck rotation selector (See illus. 1 D) (Reversing Drills only)

Forward (See illus. 4 a)

A letter 'R' indicates turning to the right (forward)

Reverse (See illus. 4 b)

A letter 'L' indicated turning to the left (reversing).

The circular label on the handle indicated the direction of rotation – as viewed from the back of the drill.

Reversing benefits

- Should the drill bit jam, i.e. in masonry or in 2 or 3 different materials at the same time, you can reverse the drill out of the situation.
- For unscrewing those awkward screws.
- Saves time when there are several screws to remove.

Taking out screws
Best results are obtained by starting off using a very slow speed and increasing it just enough to remove the screw. High speed is unnecessary and some sparking at the rear of the drill may occur which may cause premature wear of the brushes.

WARNING!
DO NOT OPERATE FORWARD/REVERSE SWITCH WHILE DRILL IS IN MOTION

Removeable Chuck (See illus. 1 A)

To remove the chuck (See illus. 3)

Open the jaws of the chuck with the chuck key. Then hold the chuck firm in one hand and with a screwdriver turn the screw set in the chuck, clockwise with the other hand until it comes out.

Use only the correct chuck key. Place chuck key into the chuck, and hold the drill firmly in one hand with the chuck pointing away from you. Rotate the chuck so that the chuck key is just above the horizontal position on the right hand side of the machine. Strike the crossbar end of the key a sharp downward blow with a mallett or light hammer. The chuck should now be sufficiently loose to be unscrewed by hand.

General guide to accessories, drill speeds and capacities

Applications		Material	Accessories	Rec. Speed (2 speed models only)	Variable speed only
Drilling Holes	1/16" – 3/16" 1.6mm – 4.8mm	Metal & Wood	H S S Twist Bit	High	High
		Masonry Concrete *	Masonry Bit	Low	Medium
	7/32" – 1/2" 5.6mm – 13mm	Metal (Max)	H S S Twist Bit	Low	Medium
		Masonry Concrete (Max) * *	Masonry Bit	Low	Medium
	9/16" – 3/4" 14mm – 19mm	Masonry (Max) *	Masonry Bit	Low	Medium
	7/32" – 1" 5.6mm – 25mm	Wood (Max)	Auger	High	High
Drilling	Glass**	Mirrors etc.	Spear Point		Medium
	Holesawing	Wood, metal	Holesaw	Low	Medium
Sanding	Coarse Sanding	Wood Metal	Rubber Pad and Sanding Discs	High	High
Polishing	Car or Furniture	Polish Paint Varnish	Polishing Bonnet	Low	Low
	Ornaments	Metal	Rag Buff	High	High
Screwdriving	Wood Screws **	Wood	Screwdriver Bit and Finder Assembley	–	Low

* For best results use hammer mode.
** Variable speed drills only

Hammer action (See illus. 5 a and 5 b)

The hammer action selector has two positions "DRILL" and "HAMMER" indicated by the drill and hammer signs positioned on the sides of the drill. Slide the selector to the desired position.

HINTS ON USE

General Points

- Clamp your work securely
- Use the recommended speed for the job – see the tables overleaf.
- Don't force the drill – let it work at its own pace. See the following hints for drilling in different materials and holesawing.

Drilling Hints

All Materials

- Keep the drill-bit sharp.
- If drill has variable speed mode use low speed for spot drilling to start the hole.
- For large holes in hard materials, drill a small pilot hole first.
- Reduce pressure as the drill is about to break through.

Wood (See illus. 8)

1. To start a hole accurately, use a pointed punch or nail to mark the surface.
2. Use A carbon steel twist drills
   B hole saws
   C spade-type bits.
   Take extra care with a spade-type bit, as it loses its centre guide as it breaks through.
3. To avoid splintering on breaking-through, either clamp a piece of scrap wood to the back of the work, or drill from both sides of the work.

Metals

1. Always clamp sheet metal.
2. Support thin metal with a wooden block to avoid distorting it.
3. Use a punch to mark the position of the hole.
4. Use high speed steel twist drills except for white cast iron. This needs a special carbide tipped bit.
5. Make a pilot hole first before drilling a large hole.
6. With steel, use oil as a lubricant. With aluminium, use turpentine or paraffin as a lubricant. With brass, copper and cast iron, use no lubricant; withdraw the drill from the hole frequently to let it cool.

Plastic and plastic-coated chipboard

1. Use high speed steel drill bits.
2. Other hints as for wood.

Masonry

1. With concrete, hard brick, stone, hard cement and marble, use hammer action, (but spot-drill marble without hammer). This needs special percussion drill bits. Suitable Black & Decker bits are: A8172 No 8, A8173 No 10, A8174 No 12, A8175 No 14, A8170 Set of all four above. These drill are also suitable for drill-only masonry work.
2. With tiles, flagstones, soft brick, lime cement, breeze and plaster, use drill-only action.
3. Use carbide-tipped bits in good condition, results depend on the quality of the tip.
4. Apply steady firm pressure while drilling or hammer-drilling.
5. Occasionally withdraw the drill from the hole to clear the dust.

Screwdriving (Variable speed drills only) See illus. 9

A. Use a screwdriving bit suitable for the type of screw.
B. Drill a pilot hole for the screw thread to bite into.
C. Drill a clearance hole for the unthreaded screw shank.
D. If you are using countersunk screws, drill a countersink for the screw threads.
E. Use your screwdriver at the lowest practical speed.
F. You can buy special combination bits which drill all three holes in one operation.

You must have the right size bit for the screws you are using. There is an adjustable stop to vary the degree of countersinking. (See illus. 10)

Holesawing (See illus. 11)

1. Use a holesaw of the size you want, or one of a set of interchangeable holesaws (Black & Decker accessory no. A8090).
2. Clamp a block of scrap wood behind the material you are cutting, if you possibly can.
3. When holesawing metals, use the correct cutting fluid: with
   - steel, use cutting compound;
   - cast iron, use cutting solution (not oil);
   - aluminium, use no fluid.
   (For metal holesawing use the appropriate metal holesaw.)

Handle Attachment

(See illus. 1 I)

For your own safety, always use the handle attachment when drilling.

The handle should be pushed on to the collar and secured by turning it clockwise. It can be released by turning it in the opposite direction.

Make sure that the handle is tightened securely in the position in which it has been set.

Cleaning

- Use only mild soap and a damp cloth to clean the drill. Many household cleaners contain chemicals which could seriously damage the plastic. Also, do not use petrol, turpentine, lacquer or paint thinners or similar product. Never let any liquid get inside the tool and never immerse any part of the tool into liquid.

Accessories (See illus. 7)

Your drill will take all chuck mounted accessories such as wire brushes and the backing pad for coarse, medium and fine sanding discs and polishing bonnets.

WARNING
DRILL MUST BE SWITCHED IN FORWARD (R) DIRECTION WHEN USING ACCESSORIES.

Drill Stand Attachment
(See illus. 6)

A drill stand attachment is available to convert your Black & Decker drill into an accurate bench drill.

Note

Reversing drills should not be used for driving attachment tools.